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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,021	12/20/2001	Jerome James Workman JR.	15708 B	9504

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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/034,021

Applicant(s)

WORKMAN ET AL. *elo*

Examiner

Norca L. Torres-Velazquez

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/24/03, 7/7/03, 8/11/03, 10/14/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's arguments filed November 25, 2003 have been fully considered but they are not persuasive.

a. Amendments to the Specification have been entered.

b. Applicants have amended claim 1 to incorporate the limitation of claim 3 that the nonwoven structure also comprises super-absorbent material. The limitation of the nonwoven comprising superabsorbents was originally rejected by the Examiner over KERA WALLA in view of HAILE et al. and GOLDMAN et al. In their remarks, Applicants argue that it would not be obvious to one skilled in the art to combine the nonwoven structure of KERA WALLA and HAILE et al. with the superabsorbents of GOLDMAN et al. due to the potential for fire when microwave energy is used to heat the binder fibers. Applicants cite page 13, lines 8-18 of their specification to indicate that the use of microwave energy in the presence of natural fibers and superabsorbents can result in thermal damage and fire without proper control.

The Examiner reviewed Applicant's specification and on the cited paragraph above, it indicates that prior to the microwave processing step the natural fibers and SAM (superabsorbent material) must be of a pre-specified moisture content and temperature. Careful control of these variables will ensure specific heat conversion and reduce the possibility of thermal damage or fire within the structure. Applicants are referred to page 4, last line of second paragraph of KERA WALLA in which it indicates the importance of moisture presence in the activation of the binding fibers by EMR in the nonwoven. Therefore, claim 1 is rejected over KERA WALLA in view of HAILE et al. and

Art Unit: 1771

GOLDMAN et al. since the processing conditions necessary to reduce the possibility of fire during the microwave processing would have been within the control of one skilled in the art.

c. The Applicants further argue that the claimed oxidation property and dielectric loss of claim 8-10 wouldn't be inherent to Kerawalla's invention since the claim now includes superabsorbents.

It is the Examiner's position that the claimed properties are related to the binder fibers with EMR susceptors in the nonwoven web and not directly related to the superabsorbents, therefore, the Examiner's maintains her position that those properties would be inherent or in the alternative obvious to Kerawalla's invention.

d. Applicant's remarks regarding the provisional rejection under double-patenting over claims of copending application 10/033,860 are noted and the rejections are maintained.

e. The objection of claim 12 has been withdrawn in view of Applicant's amendment.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-11 and 15-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over KERA WALLA (WO 91/19036) and HAILE et al. (US 6,495,656 B2) further in view of GOLDMAN et al. (US 5,562,646).

KERAWALLA discloses bonding non-woven fibrous structures comprising susceptible binder fibers of the sheath-core type with an EMR (electromagnetic radiation) susceptor. The fibers with the EMR susceptor become activated by EMR and act as a binder for the nonwoven fibrous structure. KERAWALLA also teaches the importance of moisture presence in the activation of the binding fibers by EMR in the nonwoven. The reference teaches the use of conventional load-bearing fibers that are bonded by the susceptible binder fibers in the nonwoven structure. (Refer to page 4, second and third paragraphs and Page 8, lines 1-3)

The reference further teaches that the selection of the optimum load-bearing fiber depends on various considerations, including the intended use of the bonded structure, and further teaches the use of natural fibers such as cotton and wood pulp, man-made fiber and inorganic fibers among the fibers that can be used in conjunction of a suitable binder fiber. (Refer to page 8 of the specification) On Page 15 of the specification, the reference gives the examples of bonded batts made with 60 to 90% load bearing fibers [which equate to the natural fibers of the present application], and 40% to 10% of binder fibers. In one of the examples, for bonded batts, the reference teaches the use of 40% and 10% of binders. (Refer to page 15)

Although KERAWALLA does not explicitly teach the claimed oxidation property or the dielectric loss of claims 8-10, it is reasonable to presume that said properties are inherent to KERAWALLA's invention. Support for said presumption is found in the use of like materials (i.e. nonwoven web comprising binder fibers with EMR susceptors that are activated/heated by electromagnetic radiation). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties of oxidation at the outer surface is 5 times higher than at the center, and the dielectric loss of the binder fibers would obviously have

Art Unit: 1771

been present once the KERAWALLA product is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

With regards to the limitation requiring the binder fibers being of a polymer with a melting point at most 110°C, HAILE et al. teaches copolyesters that may be used to form fibers. The polyester of their invention are preferably in the form of binder fibers having the form, or incorporated into, a fibrous structure. The reference teaches that bonded products containing the binder fibers can be obtained by applying heat, microwave frequencies, radio frequencies, among others, to a web or unbonded batting of filaments, with or without pressure. Upon activation, the polyester in the binder fiber softens and flows and upon cooling forms a solid bond with neighboring fibers. The binder fibers of HAILE et al.'s invention are particularly suited for bonding to cellulosic fibers, such as cotton, rayon, lyocell, acetate and pulp-based fibers. The binder fibers may be in the form of unicomponent or bicomponent binder fibers or other multicomponent forms. (Column 28, lines 27-58) The reference teaches polymeric compounds that include polyacrylates, polyvinyl alcohol and polyvinyl-acetate-polyethylene copolymers. (Column 12, lines 12-20) It is noted that HAILE et al. does not explicitly teach that the binder fibers are made from a polymer having a melting point at most 110°C, at most 90°C, or at most 80°C; but it does teach polymeric materials that would meet the claimed melting point temperatures.

Since both KERAWALLA and HAILE et al. are directed to binder fibers, the purpose disclosed by HAILE et al. would have been recognized in the pertinent art of KERAWALLA.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the binder fibers of the nonwoven and provide them

Art Unit: 1771

with polymeric compounds such as polyacrylates, polyvinyl alcohol or polyvinyl-acetate-polyethylene copolymers with the motivation of bonding products containing the binder fibers by applying microwave heat as disclosed by HAILE et al. (Column 28, lines 35-37).

With regards to the claimed nonwoven structure further comprising superabsorbent, it is noted that the use of superabsorbent materials in nonwovens for the purpose of using them in applications such as absorbent members for body fluids is well known in the art. The examiner provides the reference of GOLDMAN et al. to show support to the above statement. GOLDMAN et al. teaches absorbent members useful in the containment of body fluids in which at least one region containing hydrogel-forming absorbent polymer (superabsorbent). (Abstract) The reference further teaches that the absorbent material of their invention has a basis weight of at least about 10 gsm. (Claim 1) Therefore, it would have been obvious to one of ordinary skill in the art of nonwoven materials to provide the nonwoven with superabsorbent composition or material for the purpose of providing the nonwoven with absorbing properties that could be used in the absorbent members for body fluids applications. (Refer to Abstract and claims of GOLDMAN et al.)

With regards to claim 27, it is noted that GOLDMAN teaches the use of superabsorbent in the form of particles (Claim 6), and the use of 70 to 100% of the superabsorbent in the absorbent structure. (Claim 26) These teachings in light of the teachings of KERAWALLA and HAILE et al. would read on the ranges of the different materials in the claimed nonwoven structure.

4. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over KERAWALLA, HAILE et al. and GOLDMAN, further in view of GINDRUP (US 5,786,785).

Art Unit: 1771

The KERAWALLA reference above discloses examples of EMR susceptors that may be incorporated into the fiber on page 14. However, the listed examples do not explicitly teach the use of carbon black, magnetite, silicon carbide or calcium chloride as claimed on claim 12.

The Examiner position is that it would be obvious to one of ordinary skill in the art to use any of the claimed compositions as an EMR susceptor since these have similar properties to the compounds taught by KERAWALLA. Further, GINDRUP et al. teaches the use radiation absorbing material such as carbon, ferrites, magnetite, iron, nickel and cobalt in an electromagnetic radiation non-absorptive binder in order to produce an electromagnetic radiation absorptive composition. (Refer to claim 1)

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the binder fibers and provide them with EMR susceptors such as magnetite since the prior art has shown that these are equivalent materials to the susceptors taught by KERAWALLA and further with the motivation of providing the binder fibers with the capacity of absorbing electromagnetic radiation as disclosed by GINDRUP. (Paragraph 6, lines 14-15).

### ***Double Patenting***

5. Claims 1-2, 4 and 8-23 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4 and 8-24 of copending Application No. 10/033,860. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application includes the limitations claimed in the present application.



Art Unit: 1771

6. Claims 1-2, 4 and 8-23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4 and 8-24 of copending Application No. 10/033,860 in view of HAILE et al. (US 6,562,938)

The copending application does not claim the binder fibers made from a polymer having a melting point of at most 110°C.

HAILE et al. teaches copolyesters that may be used to form fibers. The polyester of their invention are preferably in the form of binder fibers having the form, or incorporated into, a fibrous structure. The reference teaches that bonded products containing the binder fibers can be obtained by applying heat, microwave frequencies, radio frequencies, among others, to a web or unbonded batting of filaments, with or without pressure. Upon activation, the polyester in the binder fiber softens and flows and upon cooling forms a solid bond with neighboring fibers. The binder fibers of HAILE et al.'s invention are particularly suited for bonding to cellulosic fibers, such as cotton, rayon, lyocell, acetate and pulp-based fibers. The binder fibers may be in the form of unicomponent or bicomponent binder fibers or other multicomponent forms. (Column 28, lines 27-58) The reference teaches polymeric compounds that include polyacrylates, polyvinyl alcohol and polyvinyl-acetate-polyethylene copolymers. (Column 12, lines 12-20) It is noted that HAILE et al. does not explicitly teach that the binder fibers are made from a polymer having a melting point at most 110°C, at most 90°C, or at most 80°C; but it does teach polymeric materials that would meet the claimed melting point temperatures.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the binder fibers of the nonwoven and provide them with polymeric compounds such as polyacrylates, polyvinyl alcohol or polyvinyl-acetate-

Art Unit: 1771

polyethylene copolymers with the motivation of bonding products containing the binder fibers by applying microwave heat as disclosed by HAILE et al. (Column 28, lines 35-37).

This is a provisional obviousness-type double patenting rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

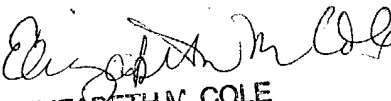
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

February 11, 2004

  
ELIZABETH M. COLE  
PRIMARY EXAMINER